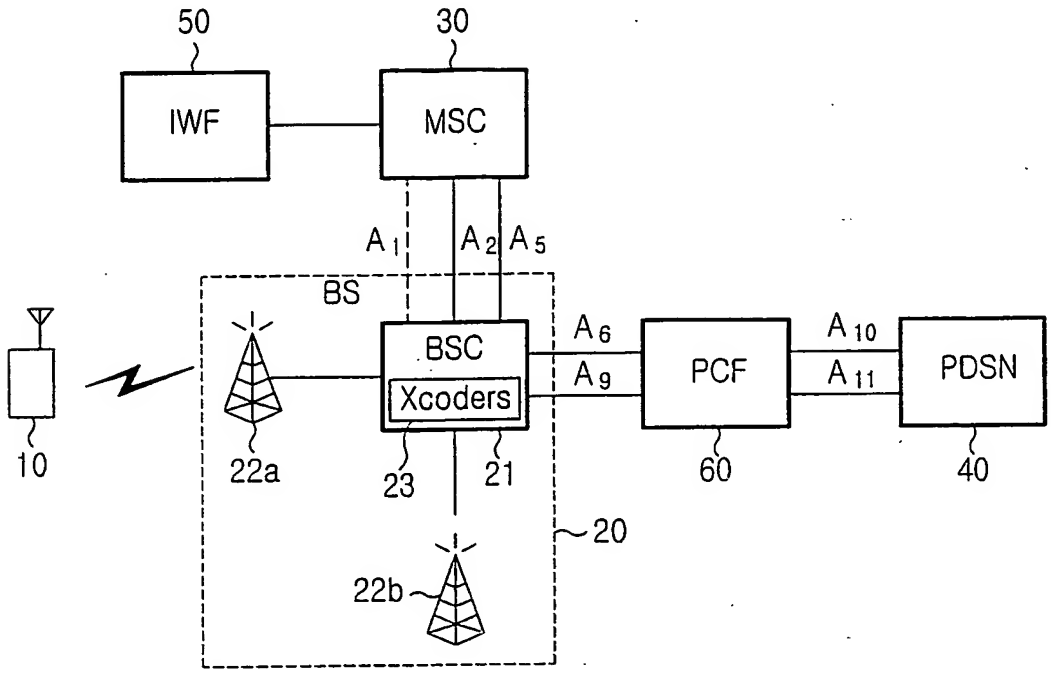

FIG.1

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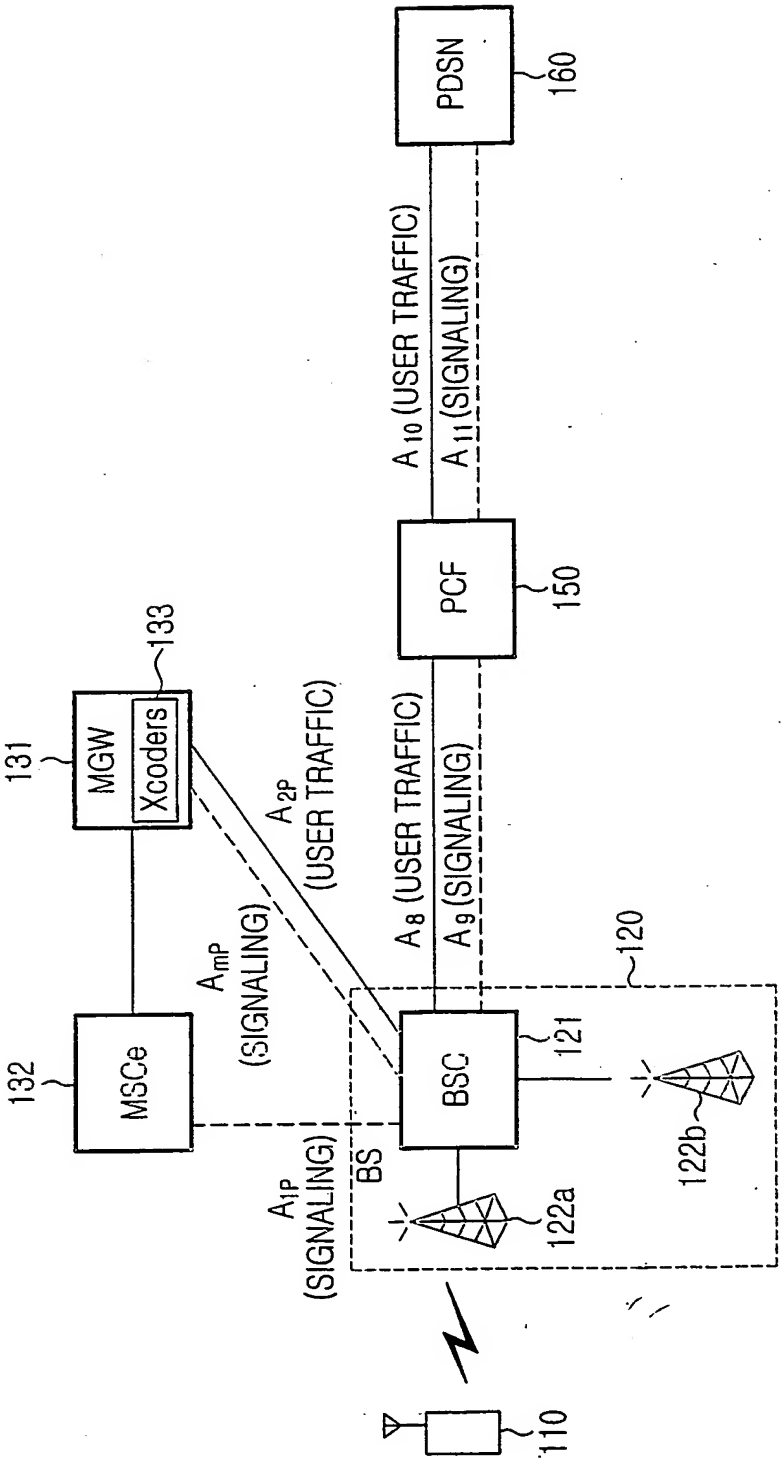
PDSN
160
A10 (USER TRAFFIC)
A11 (SIGNALING)
PCF
150
A8 (USER TRAFFIC)
A9 (SIGNALING)
133
131
MGW
Xcoders
A2P
(USER TRAFFIC)
AmP
(SIGNALING)
120
132
MSCe
BSC
121
A1P
(SIGNALING)
BS
122a
122b
110

FIG.2

IOS A1p	IOS A1p	EVRC/SMV	EVRC/SMV	IOS Amp	IOS Amp
SUA	SCCP	FP	FP		
SCTP	M3UA	RTP*	GRE*		
	SCTP	UDP		SCTP	TCP/UDP
IP	IP	IP	IP	IP	IP
L2	L2	L2	L2	L2	L2
L1	L1	L1	L1	L1	L1
Case1	Case2	Case1	Case2	Case1	Case2
A1p interface		A2p interface		Amp interface	

FIG.3

Information Element	Element Direction	Type
Message Type	BSC -> MGW	M
Frame Protocol Control Procedure	BSC -> MGW	O
Time Synchronization Information	BSC -> MGW	O
Reverse Layer 3 Data	BSC -> MGW	O
Message CRC	BSC -> MGW	M
Cause	BSC -> MGW	O

FIG.4A

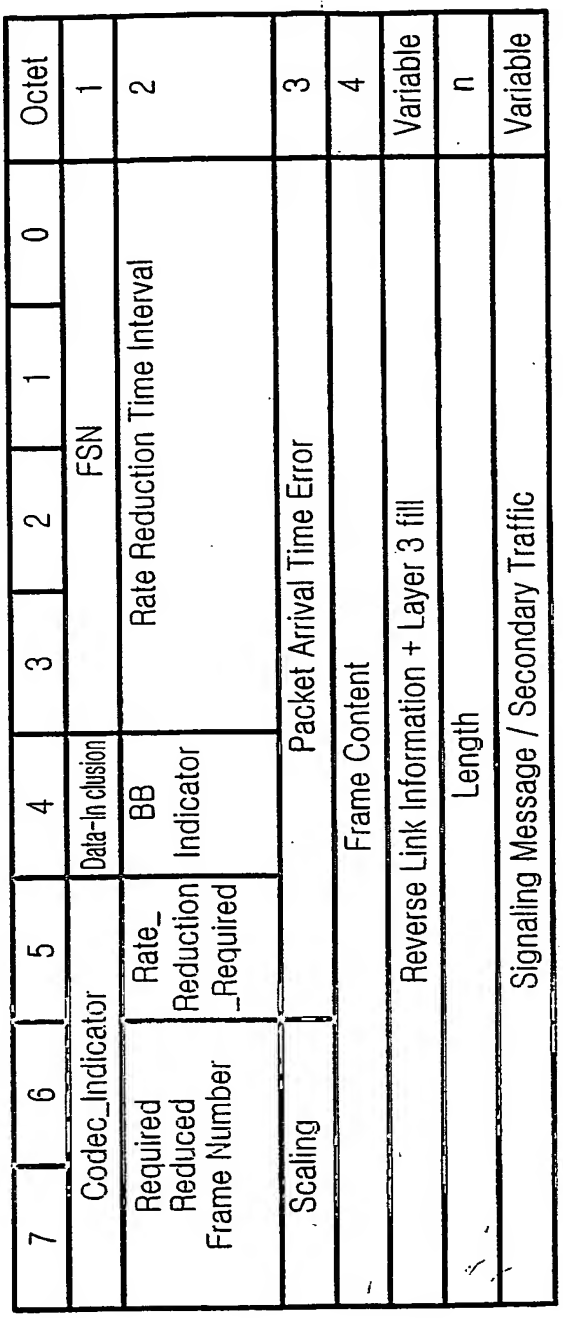
7
6
5
4
3
2
1
0
Octet
Codec_Indicator
Data-Inclusion
FSN
1
Required Reduced Frame Number
Rate_ Reduction _Required
BB Indicator
Rate Reduction Time Interval
2
Scaling
Packet Arrival Time Error
3
Frame Content
4
Reverse Link Information + Layer 3 fill
Variable
Length
n
Signaling Message / Secondary Traffic
Variable

FIG.4B

Information Element	Element Direction	Type
Message Type	MGW -> BSC	M
Frame Protocol Control Procedure	MGW -> BSC	O
Time Synchronization Information	MGW -> BSC	O
Reverse Layer 3 Data	MGW -> BSC	O
Message CRC	MGW -> BSC	M
Cause	MGW -> BSC	O

FIG.5A

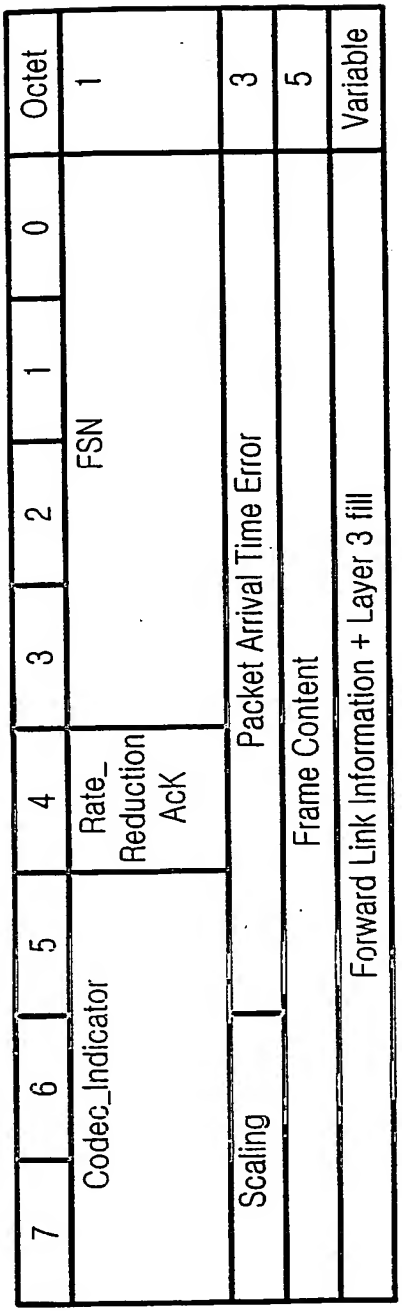
7
6
5
4
3
2
1
0
Octet
Codec_Indicator
Rate_ Reduction AcK
FSN
1
Scaling
Packet Arrival Time Error
3
Frame Content
5
Forward Link Information + Layer 3 fill
Variable

FIG.5B

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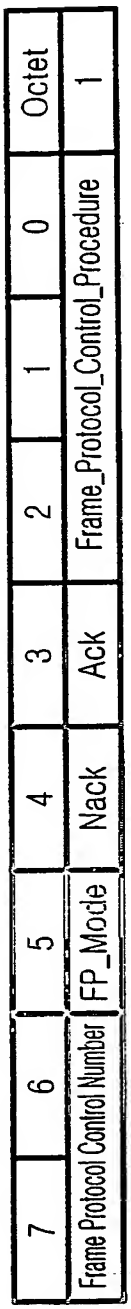

FIG.6A

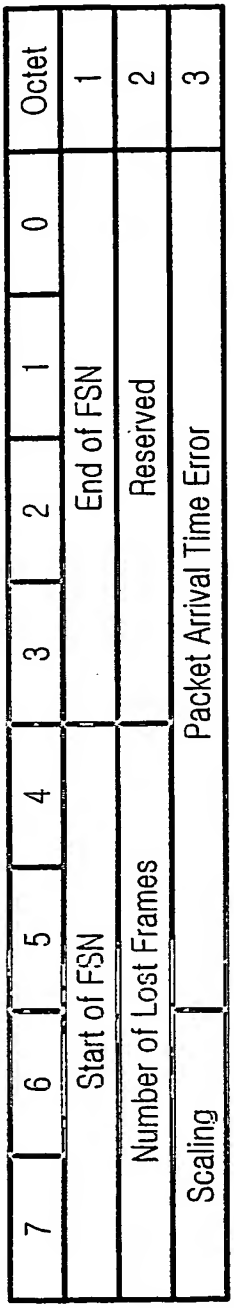
7
6
5
4
3
2
1
0
Octet
Start of FSN
End of FSN
1
Number of Lost Frames
Reserved
2
Scaling
Packet Arrival Time Error
3

FIG.6B

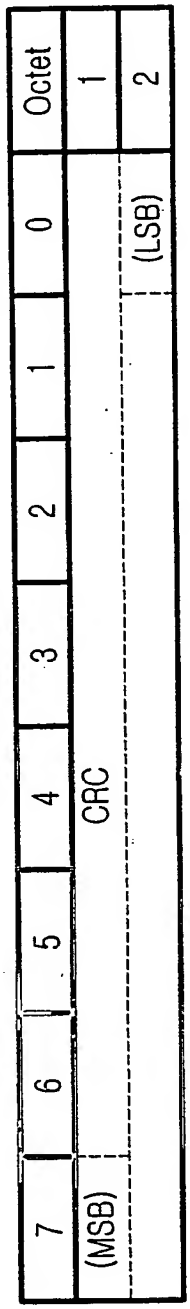

FIG.6C

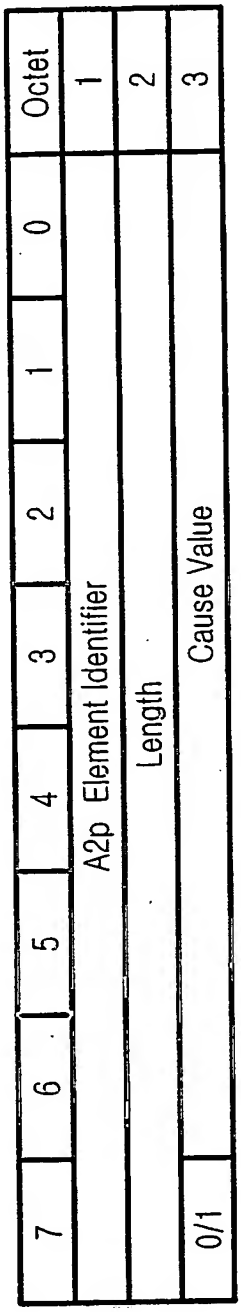
Octet
1
2
3
0
1
2
3
4
5
6
7
A2p Element Identifier
Length
Cause Value
0/1

FIG.6D

Information Element	Element Direction	Type	
Message Type(Amp)	BSC< -> MGW	M	
Call Connection Reference	BSC< -> MGW	O	R
Mobile Identity(IMSI)	BSC< -> MGW	O	R
Mobile Identity(ESN)	BSC< -> MGW	O	C
A2p Bearer ID	BSC< -> MGW	O	C
Rate Reduction Information	BSC< -> MGW	O	R

FIG.7

Information Element	Element Direction	Type	
Message Type(Amp)	MGW <-> BSC	M	
Call Connection Reference	MGW <-> BSC	O	R
Mobile Identity(IMSI)	MGW <-> BSC	O	R
Mobile Identity(ESN)	MGW <-> BSC	O	C
A2p Bearer ID	MGW <-> BSC	O	C
Rate Reduction Information	MGW <-> BSC	O	R
Cause	MGW <-> BSC	O	C

FIG.8

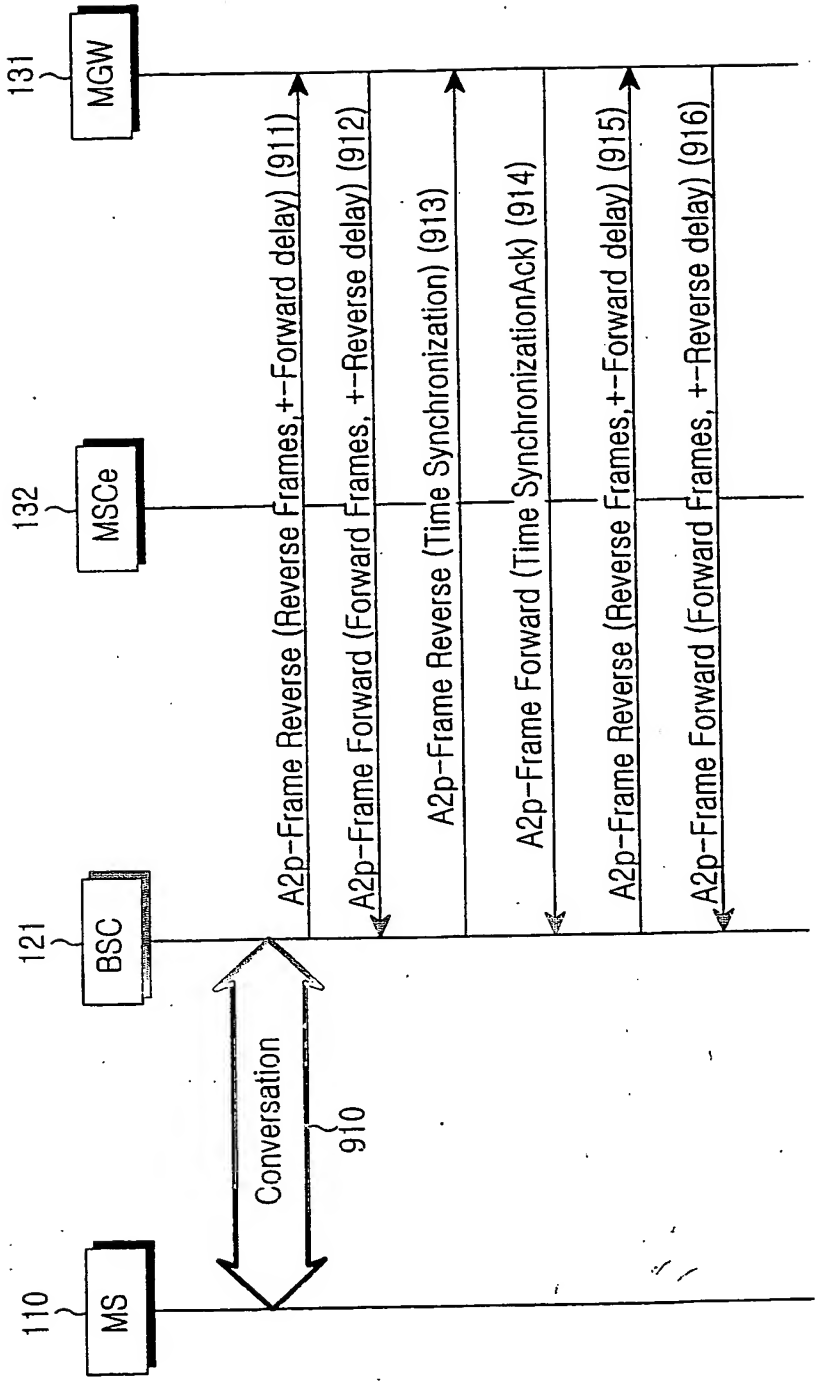
131
MGW
132
MSCe
121
BSC
110
MS
A2p-Frame Reverse (Reverse Frames,+-Forward delay) (911)
A2p-Frame Forward (Forward Frames, +-Reverse delay) (912)
A2p-Frame Reverse (Time Synchronization) (913)
A2p-Frame Forward (Time SynchronizationAck) (914)
A2p-Frame Reverse (Reverse Frames,+-Forward delay) (915)
A2p-Frame Forward (Forward Frames, +-Reverse delay) (916)
Conversation
910

FIG.9

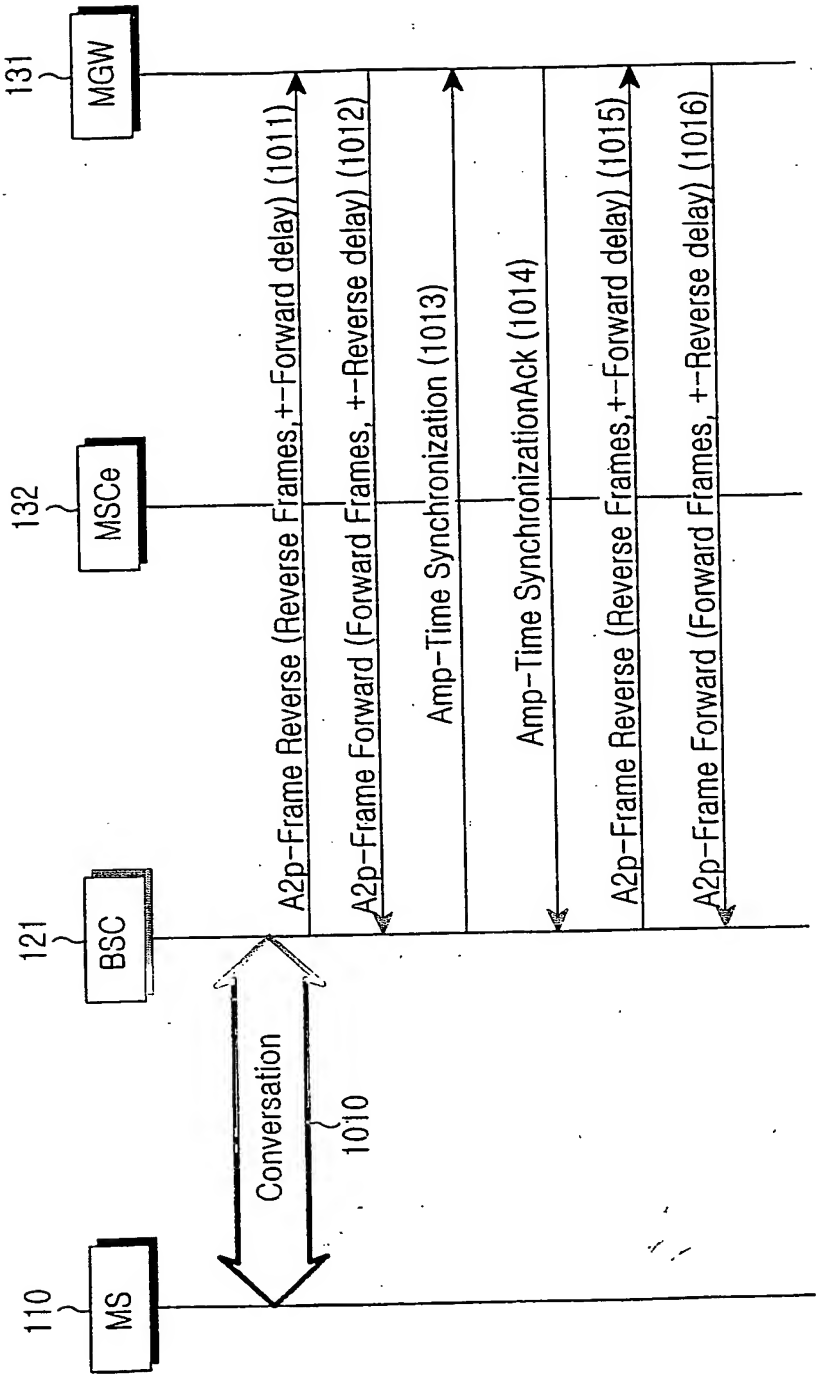
MS
110
BSC
121
MSCe
132
MGW
131
Conversation
1010
A2p-Frame Reverse (Reverse Frames,+-Forward delay) (1011)
A2p-Frame Forward (Forward Frames, +-Reverse delay) (1012)
Amp-Time Synchronization (1013)
Amp-Time SynchronizationAck (1014)
A2p-Frame Reverse (Reverse Frames,+-Forward delay) (1015)
A2p-Frame Forward (Forward Frames, +-Reverse delay) (1016)

FIG.10

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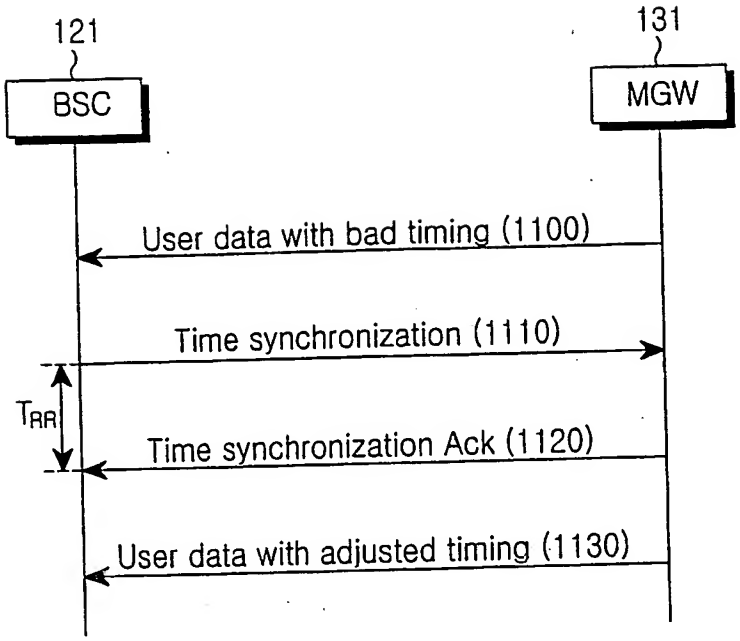

FIG.11

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